REMARKS

This amendment is responsive to the Office Action dated October 6, 2003. Applicant has amended claims 11 and 44. Claims 13-33 and 46-60 have been withdrawn. Claims 1-12 and 34-45 are pending.

As a preliminary matter, Applicant has not yet received initiated copies of the form 1449 submitted in a Supplemental IDS filed August 6, 2003. Applicant requests the Examiner initial and return a copy of the form 1449 submitted in the Supplemental IDS filed August 6, 2003.

In the Office Action, the Examiner rejected claim(s) 1-12 and 34-45 under 35 U.S.C. 102(a) as being anticipated by "Spyder with PhotoCAL User Guide" (hereafter Spyder). In particular, the Examiner stated that Spyder discloses a method and computer readable medium for calibrating an imaging device comprising characterizing the imaging device with a device model such that an average error between expected outputs determined from the device model and measured outputs of the imaging device is on the order of an expected error and adjusting image rendering on the imaging device to achieve a target behavior.

Applicant respectfully traverses the Examiner's rejections of claims 1-12 and 34-45. The Spyder reference fails to disclose or suggest the inventions recited in Applicant's claims. In particular, Spyder lacks any teaching of the use of an expected error, and clearly lacks any suggestion of characterizing an imaging device such that an average error is on the order of an expected error, as recited in claims 1 and 34.

Applicant's claim 1 recites a method of calibrating an imaging device comprising characterizing the imaging device with a device model such that an average error between expected outputs determined from the device model and measured outputs of the imaging device is on the order of an expected error, and adjusting image rendering on the imaging device to achieve a target behavior. Claim 34 recites a computer readable medium storing program code that when executed, performs the method of claim 1.

Spyder does not disclose or suggest characterizing the imaging device with a device model such that an average error between expected outputs determined from the device model and measured outputs of the imaging device is on the order of an expected error, as recited in claims 1 and 34. To be sure, the passages of Spyder cited by the Examiner make absolutely no mention of an expected error, much less a technique of characterizing the imaging device with a

device model such that an average error between expected outputs determined from the device model and measured outputs of the imaging device is on the order of an expected error.

Conventional calibration techniques generally minimize the error between expected and measured outputs. Applicant has determined, however, that when the error between expected and measured outputs is minimized, overcompensation or overcorrection can occur. In particular, when the error between the device model and measured output is minimized, the device model may effectively compensate for noise or other effects for which correction is undesirable. When this occurs, the image rendering can suffer in terms of quality.

Applicant's claimed invention recognizes these drawbacks to minimizing the error between the expected and measured outputs. In particular, Applicant's claimed invention recognizes that the quality of image rendering is limited by the expected error. The presence of an expected error can be caused by several factors unrelated to the imaging device such as errors or limitations of the measuring device or a video card.

In order to improve image rendering, Applicant's claimed invention characterizes the imaging device with a device model such that an average error between expected outputs determined from the device model and measured outputs of the imaging device is on the order of an expected error. Accordingly, Applicant's claimed invention generally does not attempt to minimize the error between the expected and measured outputs, but rather substantially matches the average error to the expected error. In this manner, improved color rendering can be achieved by avoiding corrections to the device model which are not necessarily attributable to device output. Applicant's invention, as claimed, recognizes that the device model cannot adequately account for external factors, such as noise or limitations of the measurement device or video card.

Spyder lacks any suggestion of characterizing the imaging device with a device model such that an average error between expected outputs determined from the device model and measured outputs of the imaging device is on the order of an expected error, as recited in claims 1 and 34. In fact, the passages of Sypder cited by the Examiner do not even appear to describe any specific technique for making such adjustments, much less a technique that recognizes that an expected error exists. Accordingly, Spyder clearly lacks any suggestion that the adjustments to the device model are made to cause an average error to be on the order of an expected error.

For the reasons set forth above, Applicant believes that claims 1 and 34 clearly recite novel subject matter over Spyder.

Independent claims 11 and 44 have been amended to recite reducing error between the measured color output and expected color output as defined by the device model by adjusting the adjustable parameters of the device model such that an average error between the expected color output and the measured color output is on the order of an expected error.

Spyder makes absolutely no mention of expected color output, much less a technique of reducing error between the measured color output and expected color output as defined by the device model by adjusting the adjustable parameters of the device model, as recited in claims 11 and 44. Moreover, as outlined above, Spyder makes no mention of an expected error whatsoever, much less a technique in which an average error is reduced to be on the order of the expected error. For these reasons, the rejections should be withdrawn.

Applicant points out that numerous other features of Applicant's dependent claims are also not shown in Spyder. As one example, claims 7 and 8 recite that the number of the adjustable parameters of the device model is less than a number of measured outputs of the imaging device. This feature does not appear to be shown in Spyder. Moreover, Applicant's specification is replete with discussions of the advantages of having fewer adjustable parameters than measured outputs. In particular, Applicant's specification makes it clear that defining the number of the adjustable parameters of the device model to be less than a number of measured outputs of the imaging device can help ensure that a calibration process will not overcompensate for measured results. Such advantages would not have been apparent to one of ordinary skill in the art without access to Applicant's disclosure. Not only does Spyder lack any discussion of this feature, but also lacks an appreciation of the advantages associated therewith.

Applicant in no way acquiesces to any of the Examiner's characterizations of the Spyder with respect to the features recited in any of Applicant's dependent claims.

CONCLUSION

All claims in this application are in condition for allowance. Spyder makes absolutely no mention of an expected error or expected color output, much less a technique which uses an expected error or expected color output in the calibration process as specifically recited in

Applicant's claims. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

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